INCLUSIVE GREEN GROWTH: INVESTING FOR A SUSTAINABLE FUTURE

Dialogue Session 3: Roadway to Sustainable Infrastructure

Greening of the Transport and Logistics Sector: Solutions for National and Local Governments

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Fundamentals: Decarbonisation Options and Environmental Solutions in Transport

- **Technology**: electric/clean vehicles, trucks and vans, tyres, aerodynamics, double decks, IT systems, etc.
- **Infrastructure**: Logistics networks and terminals, energy and communication, electricity charging points
- **Markets**: Changes in logistics markets, service contracts, or logistics demand
- **Behaviour**: fuel efficient driving, training of drivers
- **Energy**: renewable electricity generation, available alternative fuels, carbon intensity of available fuels
- **Regulation**: all forms of government interventions, policies, planning & land use, consultations, standards, access rules, loading bay rules, congestion charge, etc.

Main categories of sustainable solutions in urban logistics and freight transport

1. Urban consolidation centres & clean vehicles
2. Traffic/street space management
3. Zoning, logistics planning, environmental zones, access regulations
4. Urban logistic spaces
5. Consultation processes, PPP, charters
6. Use of non-road modes
7. Re-timing deliveries

Interporto Padova: Consolidation and Clean Vehicles

- Cityporto transit point is located inside the freight village area of Interporto Padova
- 2 miles outside the City Centre, close to the major highways
- 1000 m^2 UDC located within the main logistics area of Padova
- Urban delivery of goods with a fleet of hybrid and CNG vehicles

Benefits: Savings in

- kilometres
- fuel consumed
- and emissions

Key facts on CITYPORTO PADOVA

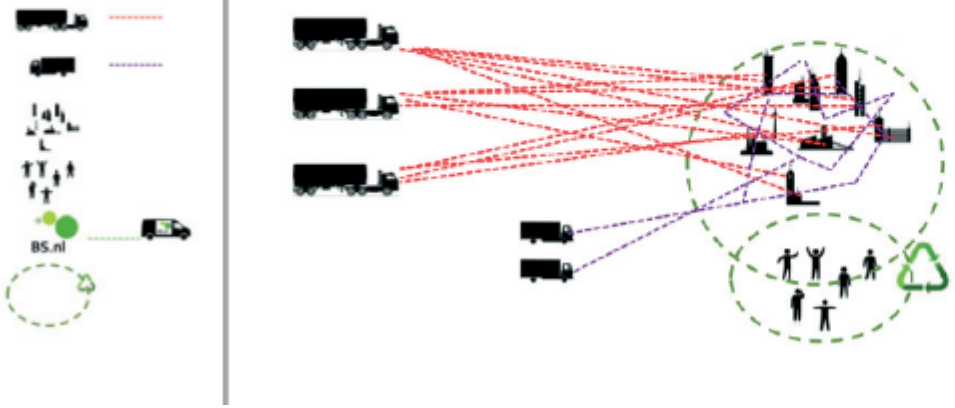
- 100,000 deliveries in 2012 for 60 clients
- 4 parcels per delivery
- 11 CNG vehicles
- Favourable access rules to city centre

Cityporto: Barriers, success factors and transferability

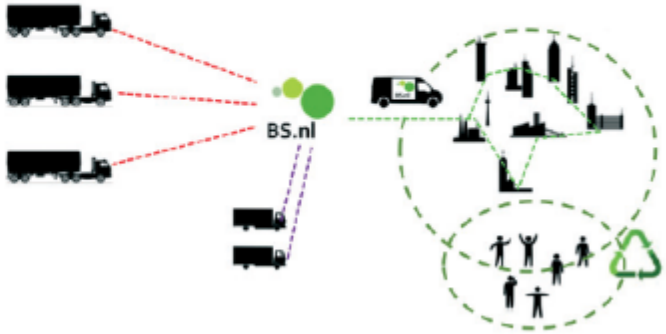
- Market barriers removed and key success factors:
  - allow a special access rules for Cityporto CNG vehicles, with no time windows for loading/unloading in the Limited Traffic Zone.
  - independent manager enabling trustful cooperation with new customers
  - Excellent stakeholder involvement/ participation at city level
- Transferability: Aosta, Modena, Brescia and Como have started a similar Cityporto scheme.

Case of Binnenstadservice: Before-After comparison of UDC

Situation without Binnenstadservice



Collective receiving point for shopkeeper: Binnenstadservice



Benefits (Business Case)

binnenstadservice nederland

Financial benefits:

- Shop keeper: reduced stock at expensive shop floor, reduced time needed to receive/ship goods
- Transport company/shipper: reduced time loss for last mile delivery, thus cost reduction

Benefits in the field of services:

- Shop keeper: pays a little fee for time consuming activities such as returns, empty boxes, paper

Benefits for society:

- Less congestion, more liveable city centre.

Environmental benefits:

- Reduced CO_2 and particle emission due to bundling of freight and cleaner vehicles.

San Sebastian Donostia

UCC + Clean vehicle delivery business

Costs data 2010 to mid-2012

Concept	2010	2011	2012
Expenses	***-69,920.05***	***-164,553.08***	***-55,851.06***
Suppliers	-33,759.83	-53,486.40	-15,719.71
Staff	-36,160.22	-111,066.68	-40,131.35
Incomes	***67,294.85***	***108,643.88***	***34,581.22***
Invoices	23,294.85	71,781.38	34,581.22
Subsidy CIVITAS	40,000.00	30,000.00	-
Subsidy EVE	4,000.00	5,690.00	-
Subsidy Webpage	-	1,172.50	-
Partial result	***-2,625.20***	***-55,909.20***	***-21,269.84***
Other incomes	41,432.70	121,463.59	7,655.84
Result*	***38,807.50***	***65,554.39***	***-13,614.00***
TOTAL*			**90,747.89**

Multi-use lanes in Barcelona

6 boulevards today are “multi uso” with side lanes restricted to:

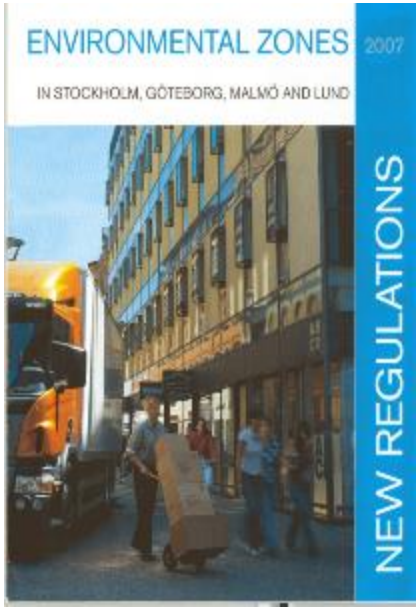
- **8:00 to 10:00 general traffic**
- **10:00 to 17:00 pick up and deliveries only**
- **17:00 to 21:00 general traffic**
- **21:00 to 8:00 on street residential parking**

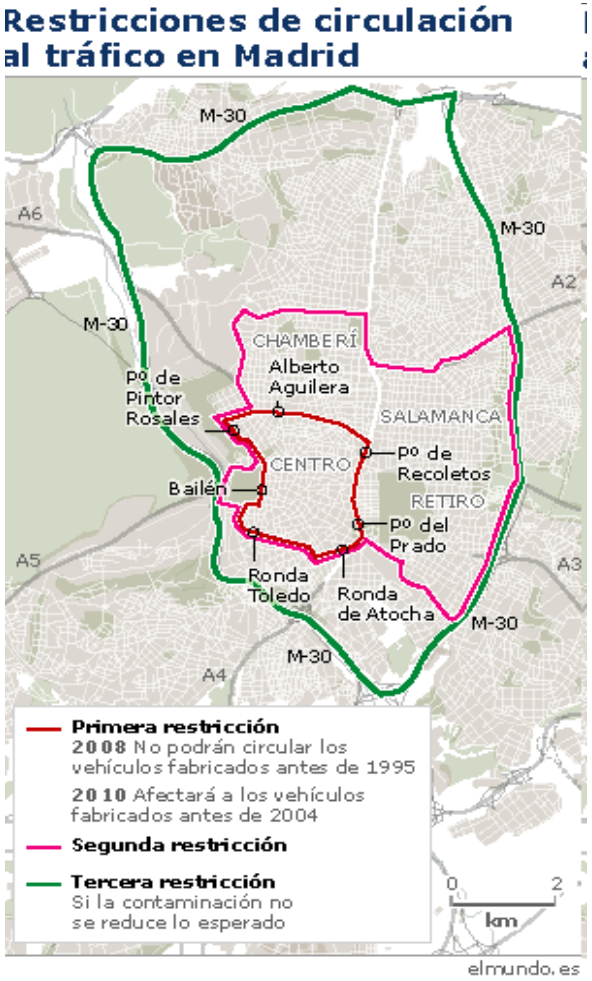
Variable message signs inform drivers of the regulation in real time

Transfer of Multiuse Lanes to Bilbao

- The idea resides in taking a lane to function more 'natural', meeting the needs of traffic and based on time slot:
- Free parking: from 9:00 pm to 8:00 am
- Booking for loading and unloading (heavy vehicles only): from 08:00 am to 12:00 noon
- Normal circulation: from 12:00 to 9:00 pm
- Transfer from Barcelona

Environmental zones and access regulations





Environmental zones and access regulations

Automated vehicle access control

- Control by number plate recognition with cameras to verify trucks' compelling with access restrictions:
  - London congestion charge zone
  - Low Emission Zones (London, Rotterdam, others)
  - Italian city centres
  - Barcelona and Madrid historic centres
  - Many others

Zoning and Air Quality
The London Low Emission Zone

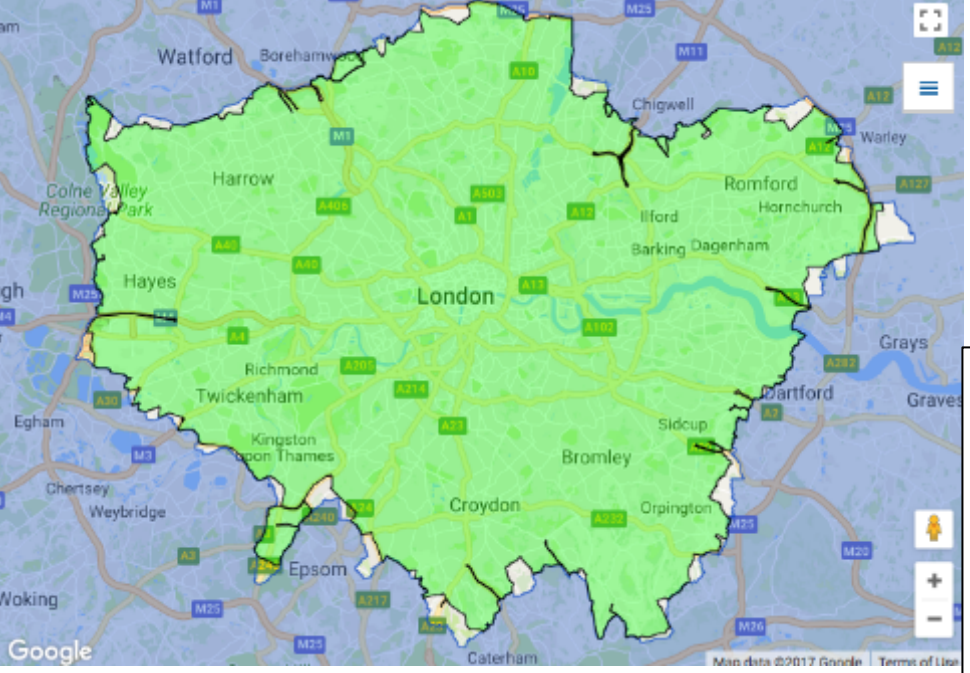
LEZ emissions standards

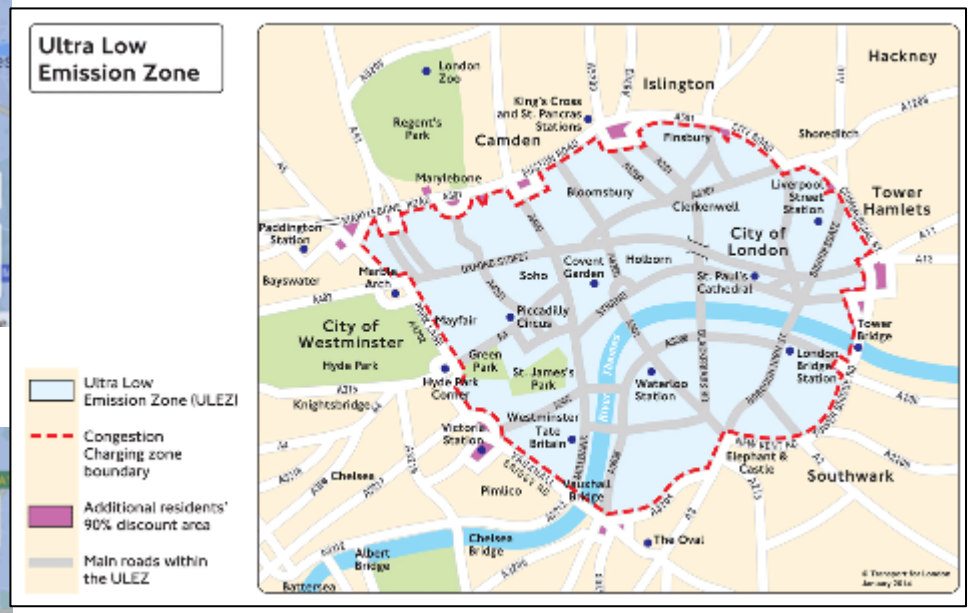
- From 4 February 2008, a standard of Euro III for particulate matter (PM) for lorries over 12 tonnes
- From 7 July 2008, a standard of Euro III for particulate matter for lorries between 3.5 and 12 tonnes and buses and coaches with more than eight seats plus the driver's seat over 5 tonnes.
- From 4 October 2010, a standard of Euro III for particulate matter for larger vans and minibuses
- From 3 January 2012, a standard of Euro IV for particulate matter for lorries over 3.5 tonnes and buses and coaches over 5 tonnes

- No emissions limits for private cars for now

- Since 2008 for trucks, 2012 for vans
- Established within the M25 highway
- Upgrading old vehicles with particle filters is compulsory
- Tightened more and more, progressively
- If entering the zone, all trucks < Euro IV pay a charge of 100 or 200 £ per day
- Plate-reading and recognition system
- It is estimated that investments and operating costs for control cost more than the revenues

Currently
Low Emission Zone





2019 Ultra Low Emission Zone
Including private cars

2025 ULEZ extension to
the whole of London

Providing dedicated logistics space & micro-hubs for clean/small vehicles

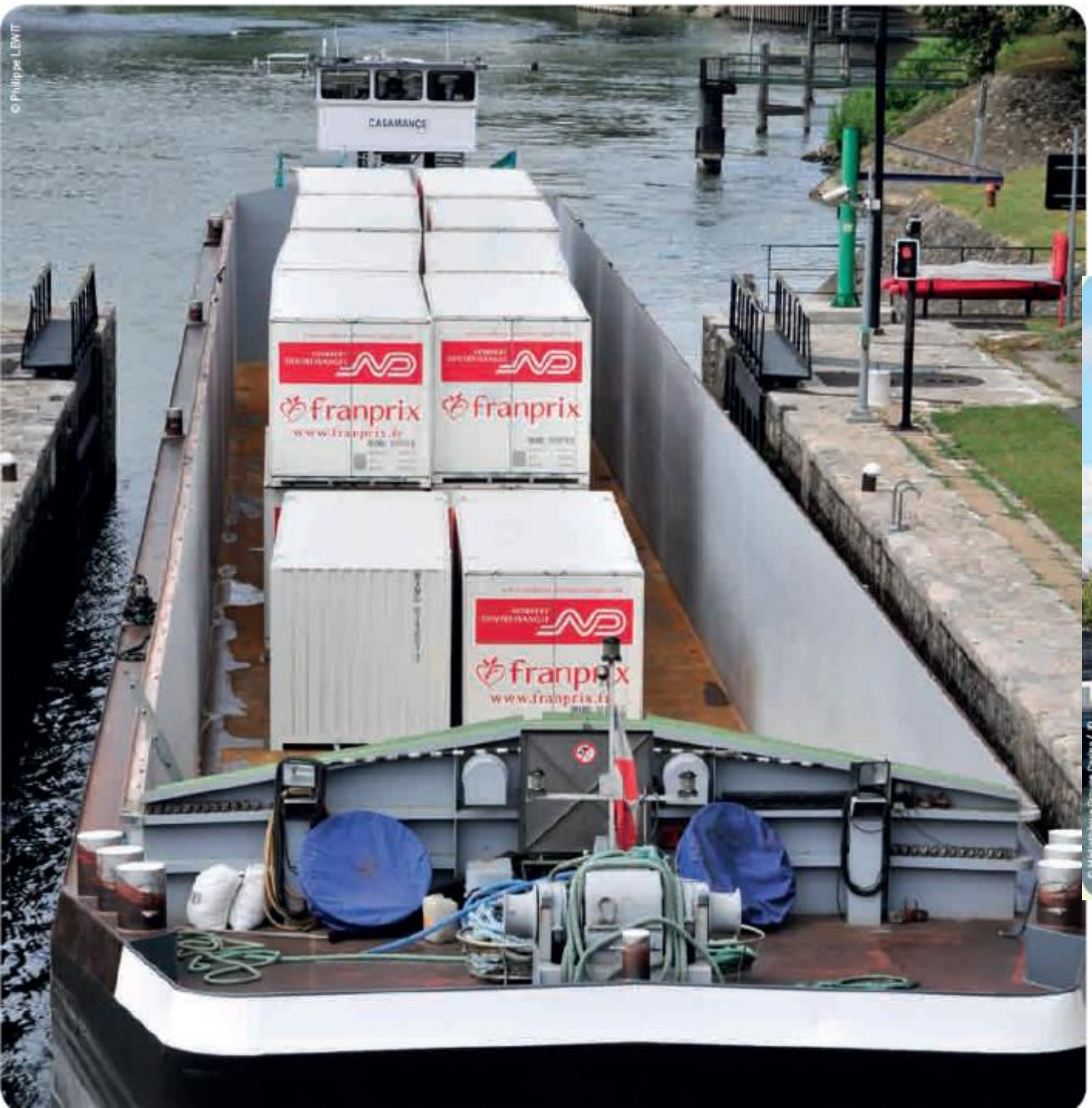
Micro hubs for last-mile transhipment & small EVs

Consultation, PPP, charters between local authorities and freight transport operators

- For example Paris, Gothenburg, Rotterdam
- London's 'tradition' for consultations with transport organisations (Freight Transport Association)
- London's Freight Operator Recognition Scheme
  - Ongoing project of the London Freight Plan (2007+)
  - Training of operators in fuel management, penalties, safety
  - Offering a market access to bronze, silver and gold certified companies participating to the scheme
  - FORS members: >4500 registered companies as of Dec 2017

Supermarket deliveries using waterways in Paris

- 80 Franprix stores are supplied by XPO Logistics in a multi-modal chain in 3 legs:
  1. In the warehouse in Chennevières pallets are loaded in containers and transported to the port of Bonneuil-sur-Marne (8 km) by road.
  2. In Bonneuil the containers are transhipped in an inland vessel and carried on the waterway up to the Paris river port of 'La Bourdonnais', near the Eiffel Tower (about 20 km)
  3. Then unloaded to a truck for delivery to stores in West of Paris.
- Reduction of the impacts of the operations,
  1. Road congestion in Paris,
  2. Energy use, GHG emissions, noise and accidents.



Chapelle International, urban rail hub under construction in Paris

- Rail freight terminal
- Electric vans
- Access for large trucks
- 90 million EUR construction investment

CHAPELLE INTERNATIONAL - SOGARIS (I)

Re-timing deliveries in The Netherlands
Silent off-peak supermarket deliveries

Points for discussion

- Learning from innovative solutions
- Learning from cases
- How to adapt a solution to your own country/city?
- How to develop a case study yourself?
- Using a powerful, simple assessment method:
  - Description of case (who, what, where, how); Benefits and costs; Barriers; Success factors; Contacts
  - What did you expected when starting your case study?
  - What are your main findings and results on the case?
  - What are you missing?

Summary role of national government

- Support cities with favourable framework conditions
- Regulation of access to city centres with clean vehicles
- Legislation beneficial for clean vehicles (subsidies, less penalties etc.)
- Funding for trials, tests and pilot programmes (for local authorities such as local development agency and cities)
- Funding for data collection and evaluation (consultancies and industry)
- Funding for research (academics)
- Coordinate and collaborate with multiple stakeholders, at least with the 3 key groups transport industry, cities, research
- *No research project on national policies favourable for urban freight in Southern countries, few cooperation, no compendium of good cases*

Concluding remarks

- **Innovations**: Many solutions, slight dominance of urban consolidation centres
- **Transferability**: Few large scale transfer, mostly limited to another company, upscale within a company or transfer to another city
- **Impacts** and **Benefits**: high estimated benefits but difficulty with quantification of robust impacts estimates (biggest difficulty is with obtaining the right data)
- Solutions in future will combine **bottom-up** with **top-down** approach, in order to be scaled-up

References: Best Practice Guides

- BESTFACT Best Practice Factory (2016): Best Practice Handbook. www.bestfact.net

- SUGAR 'Sustainable Urban Goods Logistics Achieved by Regional and Local Policies' (2011) Handbook. http://www.cei.int/sites/default/files/attachments/docs/Sustainable%20Urban%20Goods%20logistics%20Achieved%20by%20Regional%20and%20local%20policies%20-%20SUGAR/SUGAR%20Final%20Publication.pdf

Thank you

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